

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

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MAQTQTRRKVCYYDGDVGNYYYGQGHMPKPHRIRMTHNLLIN  
 YGLYRKMEIYRPHKANAEEMTKYHSDDDYIKFLRSIRPDNMSEYSKQMQRFNVEDCPV  
 FDGLFFCQLSTGGSVASAVKLNKQQT DIAVNWAGGLHHAKKSEASGFCYVNDIVLAI  
 LELLKYHQRVLYIDIDIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGLRDIGAGK  
 GKYYAVYPLRDGIDDES YEAFKPVMSKVMEMFQPSAVVLQCGSDSLSGDRLGCFNL  
 TIKGHAKCVEFVKSFNLPMLMLGGGYTIRNVARCWTYETAVALDTEIPNELPYNDYF  
 EYFGPD FKLHISPSNMTNONTNEYLEKIKORLFENLRMLPHAPGVQMQAIPEDAIP EE  
 SGDEDEDDPKRISICSSDKRIACEEEFSDSEEEGEGGRKNSSNFKKAKRVKTEDEKE  
 KDP EEKKEVT EEEKTKEEKPEAKGVKEEVKLA (SEQ ID NO:1)

FIG. 1A

FIG. 1B

1 atgtctgggg tctctgcccg ctggtgctgc tgttccccac tcggtcatcc tgagaacaca  
61 gcctgagcgr ctctgtcact cggggtagac cagcggggga ggcgagcaag atggcgacaga  
121 cgcagggcac ccgagggaaa gtctgttact actacgacgg gcatgttggg aattactatt  
181 atggacaagg ccacccaatg aagcctcacc gaatccgcat gactcataat ttgctgctca  
241 actatggtct ctaccgaaaa atggaatatct atcgccctca caaagccaat gctgaggaga  
301 tgaccaagta ccacagcga cagcaagcag atgcagagat tcaacgttgg tgaggactgt ccagtattcg  
361 tgtcggagta cagcaagcag atgcagagat tcaacgttgg tgaggactgt ccagtattcg  
421 atggcctgtt tgagttctgt cagttgtcta ctggtggttc ctggtgcaag tgggcaagc gctgtgaaac  
481 ttaataagca gcagacggac atcgccgtga attgggctgg gggcctgcac catgcaaaaga  
541 agtccgaggc atctggcttc tgttacgtca atgatatcgt ctggccatc ctggaactgc  
601 taaagtatca ccagaggggtg ctgtacattg acattgatat tcaccatggt gacggcgtgg  
661 aagagggcct ctacaccacg gaccgggtca tgactgtgtc ctttcataag tatggagagt  
721 acttcccagg aactggggac ctacgggata ccggggctgg caaagacaag tattatgctg  
781 ttaactaccc gctccgagac gggattgatg acgagtccta tgaggccatt ttcaagccgg  
841 tcatgtccaa agtaatggag atgttccagc ctagtgcgtt tatcaaaggg ggtcttacag  
901 actccctatc tggggatcgg tttaggttgct tcaatctatc ctatgctgat gctgggaggc  
961 gtgtggaatt tgtcaagagc tttaacctgc ctatgctgat gctgggaggc ggtggttaca  
1021 ccatttcgtaa cgttgcccgg tgctggacat atgagacagc tggtggccctg gatacggaga  
1081 tccctaataga gcttccatag aatgactact ttgaatactt tggaccagat ttcaagctcc  
1141 acatcagtcg tccaatatg actaacaga acacgaatga gtacctggag aagatcaaac  
1201 agcgactggt tgagaaccct tgagaaacctt agaatgctgc cgcacgcacc tgggggtccaa  
1261 ttcctgagga cgccatccct gaggagagtg gcatgagga ggaagagttc tccgattctg  
1321 gcatctcgat ctgctcctct agaggggggc cgcaagaact cttccaactt caaaaaagcc  
1381 aagaggaggg agaggggggc agaggggggc cgcaagaact cttccaactt caaaaaagcc  
1441 aaacagagga tgaaaaagag aaagacccag aggagaagaa aggaatcacc gaagaggaga  
1501 aaaccaagga ggagaagcca gaagccaaag gggccaagga ggaggccaag ttggcctgaa  
1561 tggacctctc cagctctggc ttcctgctga gtccctcagc tttcttccc c (SEQ ID NO:2)

FIG. 1B

FIG. 2A

FIG. 2B

1 cgccgagctt tggcacctc tggcgggtgg taccgagcct tccggggcgc ccctcctctc  
61 ctcccaccgg cctgcccctc ccgcggggac tatcgccccc acgtttccct cagccctttt  
121 ctctcccggc cgagccgagg gggcggggga gggcggggca gaggcaggag gaggagcccg  
181 gtggcgggcg tggccgggga ttttggaat tattattatg gacaggggtca aaaaaaagtc  
241 tgctactact acgacgggtga tccgcatgac ccataacttg aggttaaat atggcttaca cagaaaaatg  
301 cctcatagaa gggcccataa agccactgcc gaagaaatga caaaatatca cagtgatgag  
361 gaaatatata ttctacggtc aataagacca gataacatgt ctgagtatag taagcagatg  
421 tatatacaat atgttgaga agattgtcca gcgtttgatg gactcttga gttttgtcag  
481 catatattta ctctcaactg gcggttcagt tgcgggagct gtgaagttaa accgacaaca gactgatatg  
541 ctctcaactg gctgttaatt gggctggagg attacatcat gctaagaaat acgaagcatc aggatcctgt  
601 gctgttaatt tacgttaatg tatatatgata tagatatcca cgttatcatt cgtgtaatga cgtgtaatga  
661 tacgttaatg tatatatgata tagatatcca cgttatcatt cgtgtaatga cgtgtaatga  
721 tatatcgata agggatatgg atagacgatg agtcatatgg gtgctggaaa gtgctggaaa  
781 cgtgtaatga agggatatgg atagacgatg agtcatatgg gtgctggaaa gtgctggaaa  
841 agggatatgg atagacgatg agtcatatgg gtgctggaaa gtgctggaaa  
901 atagacgatg agtcatatgg gtgctggaaa gtgctggaaa  
961 tatcaacctc gtgctgtgggt attacagtgt gctaaatgtg ggtgcagact  
1021 ggttgtttca aacttaccat tggacatatg agactgcagt tggagagggt ggtgcagact  
1081 aacttaccat tggacatatg agactgcagt tggagagggt ggtgcagact  
1141 gattactttg aaccagaaca ctccagaata atgacactgg agactgcagt tggagagggt  
1201 gattactttg aaccagaaca ctccagaata atgacactgg agactgcagt tggagagggt  
1261 aaccagaaca ctccagaata atgacactgg agactgcagt tggagagggt  
1321 atgttacctc gacagtggag ctgtgatga ctgacataa gaaaggagca aagaaagcta  
1381 gacagtggag ctgtgatga ctgacataa gaaaggagca aagaaagcta  
1441 agcgggatag ctgtgatga ctgacataa gaaaggagca aagaaagcta  
1501 agaaatgtgg gaaacagagg gaaaaaacac ataccaaagg aaccaaatac  
1561 gaaacagagg gaaaaaacac ataccaaagg aaccaaatac  
1621 gaaaaaacag gaaaaaacac ataccaaagg aaccaaatac  
1681 tctcaccaat tctcaccaat tctcaccaat tctcaccaat  
1741 gaagacttct actttttcgt aaattttctt gtcaaaaaaa  
1801 actttttcgt aaattttctt gtcaaaaaaa  
1861 aaattttctt gtcaaaaaaa  
1921 gtcaaaaaaa  
1981 aaaag (SEQ ID NO:4)

FIG. 2B



FIG. 3B

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1  ggaattcgcg gccgcggcgg gctccgcgcg gacccatggc
61 caagaccgtg gctatttctt acgaccccga cgtgggcaac tccactacg gagctggaca
121 cccatcgcc atcgctctca tacattgact aatgccttca cgttacacag cgtacgacctg
181 taagaagatg ctccgaggac gctcctctca gctcctctca gctcctctca gctcctctca
241 ctccgaggac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
301 caagagtctt gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
361 gttctgctcg gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
421 ctgtgatatt gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
481 tggcttctgc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
541 tcgggtgctc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
601 cctcactgac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
661 cacaggtgac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
721 cctgcgggat gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
781 ggtagtggac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
841 ctgtgatcga gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
901 tgtcaagagc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
961 tgttgcccgc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1021 gcttccctat gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1081 cagcaccgcg gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1141 ctttgaaaac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1201 agacctcctg gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1261 gaactatagc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1321 gaaaagcgat gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1381 cactccttgg gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1441 ggggcttctg gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1501 cctgcttctc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1561 caaggatagc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1621 ttgcccctta gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1681 agacaaggac gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1741 ccttgcttcc gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1801 ctgaatccca gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1861 ctctcacttt gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca
1921 atttttgtta gctcctctca gctcctctca gctcctctca gctcctctca gctcctctca

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gcgc (SEQ ID NO:6)

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FO2020-ET627860

MLAMKHQELLEHQKLERHRQEQELEKQHQREKQLQQLKNKEKG  
KESAVASTEVMKMLQEFVLNKKKALAHPNLNHCISSCPRYWYGKTQHSSLDQSSPPQS  
GVSTSYNHPVLGMYDAKDDFPLRKTASEPNLKLRSRLKQKVAERRSSPLLRRKDGPPV  
TALKKRPLDVTDSACSSAPGSGPSSPNNSSGSVAENGIAPAVPSIPAETSLAHLVA  
REGSAAPLPLYTSPSLPNTLGLPATGPSAGTAGQDTERLTLPALQQLSLFPPTH  
TPYLSTSPLERDGAHSPLLQHMVLLQPPAQLVLTGLGALPLHAQSLVGADRVSP  
SIHKLQRHRPLGRTOQAPLPQNAQALQHLVIOQQHQQFLEKHKQQFQQQLQMNKIIP  
KPSEPARQPESHPEETEEELREHQALLDEPYLDRLPGQKEAHAQAGVQVKQEPESDE  
EEAEPREVEPGQRQSEQELLFRQALLLEQQRTHQLRNYQASMEAAGIPVSFGGHR  
PLSRAQSSPASATFPVSVQEPPTKPRFTTGLVYDTLMLKHQCTCGSSSSHPEHAGRIQ  
SIWSRLQETGLRGKCECIRGRKATLEELQTVHSEHTLLYGTNPLNRQKLDKLLGS  
LASVFVRLPCGGVGVDSDTIWNEVHSAGAARLAVGCVVELVFKVATGELKNGFAVVRP  
PGHHAESTPMGFCYFNSVA AAKLLQQLRLSVSKILLVDWDVHHGNGTQQAFYS DPSV  
LYMSLHRYDDGNFFPGSGAPDEVGTGPGVGFNVNMAFTGGLDPPMGDAEYLA AFRTVV  
MPIASEFAPDVVLASSGFDAVEGHPTPLGGYNLSARCFGYLTQQLMGLAGGRIVL ALE  
GGHDLTAICDASEACVSALLGNELDPLPEKVLQQRPNANAVRSMEKVM EIHSHYWRCL  
QRTTSTAGRSLIEAQTCENEEAETVTAMASLSVGVPKPAEKRPDEEPMEEEPPL (SEQ ID NO:7)

FIG. 4B-1

FIG. 4B-1
FIG. 4B-2
FIG. 4B-3
FIG. 4B-4
FIG. 4B-5

FIG. 4B

1 ggaggttggtg gggccgcccgc cgcggagcac cgtccccgcc gccgcccagag cccgagcccgc  
61 agccccgcgca ccgcccgcgc ccgcccgcgc cgcgcccagag acagcctccc agcctggggcc  
121 ccgggcggcg ccgtggccgc gtcgggctg gtcggccgcgc agcccagacc cgcgcgcccgc  
181 cgggtggcgg cgcaggctga cgcaggctga ggagatgcgg cgcggagcgc cggagcaggg ctagagcccgc  
241 ccgcccgcgc ccgcccgcgt cgcggcggc aagcgcagcc ccggcccggc gcccgccggc cattgtccgc  
301 cgcggccccc gcgcccgcgc cgcggcggc cagcctgcag gccttggagc ccgcccagag tggacgcccgc  
361 cgtccacac ccgcccgcgc ccgcccgcgc cgcggccgtg ggaggcggg gccagcgtg gccgcgcccgc  
421 gtgggacccg ccgtcccca ccgtcccca gggccgcccgc gcccttctg gaccttcca cccgcgcccgc  
491 gaggcggctt cgcggccgcgc cgcggccgcgc ggagggtggg cagggtcatc cagggcaggc agcggcggcccgc  
541 tctcccggtg cggggcccgc cggggcccgc gcccggcgc cagggtcatc tgcagaaagg agcggacgccc  
601 tctgttcaac ttgtgggtta ttgtgggtta cctggctcat gagacctgc cggcaggct cggcggcttga  
661 acgtctgtga ccagccctc tatcgttcc accgtcccgc tacttgtatg tgttggcggg agtttggagc  
721 tcgttggagc tatcgttcc gtggaattt tgagccattt cgaatcactt aaaggagtgg  
781 acattgctag caatgagctc ccaatgagct ccaagccat ccagatggac tttctggccg agaccagcca  
841 gtggagctgc tgaatcccgc ccgctgaac cacatgcca gcacgtgga gacggccacg tgtggccacg  
901 gcgctgcctc tgcaagtggc cccccggc gegcccatg acccgccct ggaccaccag  
961 ttctcactgc ctgtggcaga gccggccctg cgggagcagc agctgcagca ggagctcctg

FIG. 4B-1



FIG. 4B-2

1021	gcgctcaagc	agaagcagca	gatccagagg	cagatcctca	tcgccgagtt	ccagaggcag
1081	cacgagcagc	tctcccggca	gcacgaggcg	cagctccacg	agcacatcaa	gcaataacag
1141	gagatgctgg	ccatgaagca	ccagcaggag	ctgctggaac	accagcgga	gctggagagg
1201	caccgccagg	agcaggagct	ggagaagcag	caccgggagc	agaagctgca	gcagctcaag
1261	aacaaggaga	agggcaaa	gagtgcctg	gccagcacag	aagtgaagat	gaagttacaa
1321	gaatttgtcc	tcaataaaaa	gaaggcgctg	gccacccgga	atctgaacca	ctgcaactcc
1381	agagaccctc	gctactggta	cgggaaaacg	cagcacagtt	ccctgacca	gagttctcca
1441	cccagagcg	gagtgtcgac	ctcctataac	caccgggtcc	tgggaatgta	cgacgccaaa
1501	gatgacttcc	ctcttaggaa	aacagcttct	gaaccgaatc	tgaatatcacg	gtccaggcta
1561	aagcagaaag	tggccgaaag	acggagcagc	cccctgttac	gcaggaaaaga	cgggccagtg
1621	gtcactgctc	taaaaaagcg	tccgttggat	gtcacagact	ccgcgtgcag	cagcgcccca
1681	ggctccggac	ccagctcac	caacaacagc	tccgggagcg	tcgcgtggag	gaacggtatc
1741	gcgcccgcg	tcccagcat	ccggcgagg	acgagtttgg	cgcacagact	tgtggcacga
1801	gaaggctcgg	ccgctccact	tcccctctac	acatcgccat	ccttgcccaa	catcacgctg
1861	ggcctgcctg	ccaccggccc	ctctgcgggc	acggcgggcc	agcaggacac	cgagagactc
1921	accttcccg	ccctccagca	gaggctctcc	cttctcccgc	gcacccacct	caactccctac
1981	ctgagcacct	cgcccttgg	gcgggacgga	ggggcagcgc	acagccctct	tctgcagcac
2041	atggctcttac	tggagcagcc	accggcacaa	gcacccctcg	tcacaggcct	gggagtagtg
2101	cccctccacg	cacagtccct	ggttgggtgca	gaccgggtgt	ccccctccat	ccacaagctg
2161	cggcagcacc	gccactggg	gcggaccacg	tcggccccgc	tgccccagaa	cgccaggct
2221	ctgcagcacc	tggatcatcca	gcagcagcat	cagcagtttc	tggagaacaa	caagcagcag
2281	ttccagcagc	agcaactgca	gatgaacaag	atcatcccca	agccaagcga	gccagcccgg
2341	cagccggaga	gccacccgga	ggagacggag	gaggagctcc	gtgagcacca	ggctctgctg
2401	gacgagccct	acctggaccg	gctgccgggg	cagaaggagg	cgacgcaca	ggccggcgtg
2461	caggtgaagc	aggagcccat	tgagagcgat	gaggaaggag	cagagccccc	acgggaggtg
2521	gagccgggcc	agcgcagcc	cagtgaagcag	gagctgctct	tcagacagca	agccctcctg
2581	ctggagcagc	agcggatcca	ccagctgagg	aactaccagg	cgtccatgga	ggccgcccgc
2641	atccccgtgt	ccttcggcgg	ccacaggcct	ctgtccccgg	cgcagtcctc	acccgcgtct
2701	gccaccttcc	ccgtgtccgt	gcaggagccc	ccaccaagc	cgaggttcac	gacaggcctc
2761	gtgtatgaca	cgctgatgct	gaagcacccag	tgcacctgcg	ggagtagcag	cagccacccc
2821	gagcacgccg	ggaggatcca	gagcatctgg	tccccctcgc	agaagacggg	cctccggggc

FIG. 4B-2

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FIG. 4B-3

2881 aaatgcgagt gcatccgcgg acgcaaggcc accctggaag agctacagac ggtgcactcg  
 2941 gaagcccaca ccctcctgta tggcacgaac cccctcaacc ggcagaaact ggacagtaag  
 3001 aaacttctag gctcgctcgc ctccgtgttc gtccggctcc ctgcggtgg ggttggggtg  
 3061 gacagtgaca ccatatggaa cgaggtgcac tcggcgggggcagccgcct ggctgtgggc  
 3121 tgcgtggtag agctggtctt caaggtggcc acaggggagc tgaataatgg ctttgcctgtg  
 3181 gtccgcccc gtgagaccca ctggacacca tgcggaggag agcacgccca tgggcttttg ctacttcaac  
 3241 tccgcggccg tggcagccaa acgtgcacca tggaaacggg gcttctgcag gatcctcatc  
 3301 gtggactgg gtccctgtaca tgtccctcca tggcacacag cccagcagg ctagccttagc  
 3361 gtccctgtaca tgtccctcca tggcacacag cccagcagg gatgggaact tcttccagg cagcggggct  
 3421 cctgatgagg ggccctggac ccccatggg tgggcacagg gcccggcgtg ggtttcaacg tcaacacggc tttcacccgc  
 3481 ggccctggac ccccatggg tgggcacagg gcccggcgtg tacttggcg gcttcagaac ccttcaggc cgtggtaatg  
 3541 ccgactcgcca ccccatggg tgggcacagg gcccggcgtg gtgctgggtg gtgctgggtt catcaggctt cgtgcccgtg  
 3601 gagggccacc ccccatggg tgggcacagg gcccggcgtg aacctctccg ccagatgctt cgggtacctg  
 3661 acgaagcagc ccccatggg tgggcacagg gcccggcgtg cggattgtcc tggccctcga gggaggccac  
 3721 gacctgaccg ccccatggg tgggcacagg gcccggcgtg gcatgtgtt ctgccttgct tgccttgct gggaacagag  
 3781 cttgatcctc ccccatggg tgggcacagg gcccggcgtg caaagaccca tactggcgt gcctgcagc cacaacctcc  
 3841 atggagaaag ccccatggg tgggcacagg gcccggcgtg acttgcgaga acgaagaagc cgagacggtc  
 3901 acagcggggc ccccatggg tgggcacagg gcccggcgtg aagcccgccg agatgaggag  
 3961 accgccatgg ccccatggg tgggcacagg gcccggcgtg tccctcgaag ctgctgttct cttgtctgtc  
 4021 cccatggaag ccccatggg tgggcacagg gcccggcgtg tttcccggtg caccgctgag gccacgggaa gcttctgtc  
 4081 tgtctctgtc ccccatggg tgggcacagg gcccggcgtg gcttgcaaca tgcacggcctg ggcgtggcag cctcacagg  
 4141 gggctctctt ccccatggg tgggcacagg gcccggcgtg gagacgacca gacgcgcaga cagcgggagc gcggccgagc  
 4201 cgcccaggcc ccccatggg tgggcacagg gcccggcgtg cacaggtctc agacgccggc agtgacacg agtgacataa  
 4261 aacacgggac ccccatggg tgggcacagg gcccggcgtg agacgccggc agtgacacg agtgacataa taatacaaaa  
 4321 tggcgggtcc ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4381 tggcgggtcc ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4441 caaacttgat ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4501 aaccactcga ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4561 gcccgcctc ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4621 gagggacctt ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa  
 4681 cttgagtttc ccccatggg tgggcacagg gcccggcgtg agtgacacg agtgacacg agtgacataa taatacaaaa

FIG. 4B-3

APPROVED	O. G. FIG.
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FIG. 4B-4

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4741 gtggattttt gtggctgggt tttctgaagt ctgaggaaca atgccttaag aaaaaacaaa  
 4801 cagcaggaat cggtaggaca gtttcctgtg gccagccgag cctggcagtg ctggcaccgc  
 4861 gagctggcct gacgcctcaa gacggttctg gacggttcat ctcggggcc ctgggctgca  
 4921 gcccgccggt cctgttttgg ctttattgct gtttaagaaa aatggaggta gttccaaaaa  
 4981 agtggcaaat cccgttgagg gtttgaagt ccaacaaatt taaacgaat ccaaagtgtt  
 5041 ctacacgtc acatacgatt gagcatctcc atctggtcgt gaagcatgtg gtaggcacac  
 5101 ttgcagtgtt acgatacgaa tgctttttat taaaagcaag tagcatgaag tattgcttaa  
 5161 attttaggta taaataaata tataatatga taatatatat tcaatgtat tcaaagctaa  
 5221 gaaacttact tgattcttat gaaatcttga taaaatatat ataatgcatt tatagaaaaa  
 5281 gtatatatat atatatataa tgaatgcaga ttgcgaaggt ccctgcaaat ggatggcttg  
 5341 tgaatttgct ctcaaggtgc ttatggaaag ggatcctgat tgattgaaat tcatgttttc  
 5401 tcaagctcca gattggctag atttcagatc gccaacacat tcgccactgg gcaactaccc  
 5461 tacaagtctg tactttcatt ttaattattt tctaacagaa ccgctcccgt ctccaagcct  
 5521 tcatgcacat atgtacctaa tgagttttta tagcaaaaga aataaagcatt gttttatgaa  
 5561 ttgtatgaat tttttcacaa aaagatcctg aataaagcatt gttttatgaa ttttacattt  
 5641 tcctcacca ttagcaatt ttccgaatgg taataatgtc caaagggttt taattatttt  
 5701 attcttgctt gtacattttt ttttaccttt cagcgtacag aattgttgct gtcagattct  
 5761 tttgtacgat gaggaccgtag gtcttttcgg agtgacacca acgatttgtt ctttcctggt  
 5821 agtgagagga gggaccgtag agctgtataa agaagcccag gggctcttt taactttcaa  
 5881 ctgtccctagg gtggtgtgtt ttcccccctc ttgccagatg ccggggggcag tgaactcat  
 5941 attacgaggg gttggtgtgtt ttcccccctc ttgccagatg ccggggggcag tgaactcat  
 6001 gcccgccac cctgggaggc cctgggaggc atcgtcagga tagaattcta acttgagttt  
 6061 gtttaaaact ctctgaccac gtcagcaatg catggggcac acgtgggggt ctttaccac  
 6121 ttttgagcat gtcagcaatg catggggcac acgtgggggt ctttaccac ttgggttttt  
 6181 ccaactgcagc cacgtggcca gccctggatt ttggagcctg tggctgcaag gaaccaggg  
 6241 acccttgttg cctggtgaac ctgcaggagg ggtatgatg cctgaccagg acagccagtc  
 6301 ttactctttt ttctcttcaa cagtaactga cagtcacgtt ttactggtaa cttattttcc  
 6361 agcacatgaa gccaccagtt tcatccaaa gtgtatatg ggttcagact tgggggcaga  
 6421 agttcagaca caccgtgctc aggggggacc cagagccgag tttcggagtt tggtaaaagt  
 6481 tacagggtag cttctgaaat taaactcaaac ttttgaccaa atgagtgcag attcttggat  
 6541 tcaacttggtc actgggctgc tgatggctcag ctctgagaca gtgggttgag agcaggcaga

FIG. 4B-4

FIG. 4B-5

6601 acgggtcttgg gacttggtttg actttccctt ccctggtggc cactctttgc tctgaagccc  
6661 agattggcaa gaggagctgg tccattcccc attcatggca cagaacagtg gcagggccca  
6721 gctagcaggc tcttctggcc tccttggcct catctcttgc atagccctct ggggacacctg  
6781 ccacctgccc tcttaccctg ccttggttta aacatggact tggggaggaa tgcattcatct cacttttttt  
6841 ttttaagcag atgatgggat aacatggact gctcagtggc caggttatca gtggggggac  
6901 ttaattctaa tctcattcaa atggagacga cctctgcaaa ggcctggcag ggggaggcaa  
6961 gtttcatctg tcatctcact ccagcttcac aaatgtgctg agagcattac tgtgtagcct  
7021 tttcttttaa gacacactcg gctcttctcc acagcaagcg tccagggcag atggcagagg  
7081 atctgcctcg gcgtctgcag gcgggaccac gtcagggagg gtctcttcat gtgtctctcc  
7141 tgtgggtcct tggaccttta gccttttctt tcccttgcaa aggccttggg ggcactggct  
7201 gggagtcagc aagcagcac tttatatccc tttgagggaa accctgatga cgcactggg  
7261 cctcttggcg tctgacctgc cctgcctgct tcccgcctg ccgcagcgtg cccacgtgcc  
7321 cagccccac cagcaggcgg ctgccccgga ggccgtggcc cgctgggact ggccgccccct  
7381 cccagcgtc ccagggtctt ggttctggag ggccacttg tcaaggtgtt tcagtttttc  
7441 tttacttctt ttgaaaatct gtttgcaagg ggaaggacca tttcgtaatg gtctgacaca  
7501 aaagcaagtt tgatttttgc agcactagca atggactttg ttgcttttct ttttgatcag  
7561 aacattcctt ctttactggt cacagccacg tgctcatcc attcttctt ttgtagactt  
7621 tggggccacg tgttttatgg gcattgatac atataataa atatagatat aaatatatat  
7681 gaatacatat ttttaagtct cctacacctg gaggttgcat ggactgtacg accggcatga  
7741 ctttatattg tatacagatt ttgcacgcca aactcggcag ctttggggaa gaagaaaaat  
7801 gcctttctgt tcccctctca tgacatttgc agatacaaaa gatggaaatt tttctgtaaa  
7861 acaaaaacctt gaaggagagg agggcgggga agtttgcgtc ttttgaact tattcttaag  
7921 aaattgtact ttttatgtta agaaaaataa aaaggactac ttaaacattt gtcatatata  
7981 gaaaaaaaagt ttatctagca cttgtgacat accaataata gagtttatg tatttatgtg  
8041 gaaacagtgt tttagggaaa ctactcagaa ttcacagtga actgcctgtc tctctcagt  
8101 tgatttggag gaattttgtt ttgttttgtt ttgttttgtt ccttttatct cctccacgg  
8161 gccaggcgag cgcggcccgc cctcactggc cttgtgacgg tttatcttga ttgagaactg  
8221 ggcggactcg aaagagtccc cttttccgca cagctgtgtt gactttttaa ttacttttag  
8281 gtgatgtatg gctaagattt cactttaagc agtcgtgaac tgtgcgagca ctgtggttta  
8341 caattatact ttgcattcgaa aggaaccat ttcttcattg taacgaagct gagcgtgttc  
8401 ttagctcggc ctcactttgt ctctggcatt gattaaaagt ctgctattga aagaaaaag (SEQ ID NO:8)





102020 E F 6 F 350

901 agcatgctgg ccggatccag agcatctggt cccggctgca ggagacaggc ctgcttagca  
 961 agtgcgagcg gatccgaggt cgcaaaagcca cgctagatga gatccagaca gtgcactctg  
 1021 aataccacac cctgctctac gggaccagtc cctcaaccg gcagaagcta gacagcaaga  
 1081 agttgctcgg cccatcagc cagaagatgt atgctgtgct gccttgtggg ggcatacggg  
 1141 tggacagtga caccgtgtgg aatgagatgc actcctccag tgctgtgctg atggcagtgg  
 1201 gctgcctgct ggagctggcc ttcaaggtgg ctgcaggaga gctcaagaat ggatttgcca  
 1261 tcatccggcc ccaggacac caccgaggg aatccacagc cacgggattc tgcttcttca  
 1321 actctgtagc catcacccga aaactcctac agcagaagtt gaacgtgggc aaggtcctca  
 1381 tcgtggactg ggacattcac catggcaatg gcaccagca ggcgttctat aatgacccct  
 1441 ctgtgctcta catctctctg catcgctatg acaacgggaa ctctttcca ggctctgggg  
 1501 ctctgaaga ggttggtgga ggaccaggcg tggggtacaa tgtgaacgtg gcatggacag  
 1561 gaggtgtgga ccccccatt ggagacgtgg agtaccttac agccttcagg acagtggatga  
 1621 tgcccatgac ccacgagttc tcacctgatg tggtcctagt ctccgccggg tttgatgctg  
 1681 ttgaaggaca tctgtctcct ctgggtggct actctgtcac cgccagatgt tttggccact  
 1741 tgaccaggca gctgatgacc ctggcagggg gccgggtggt gctggccctg gagggagggc  
 1801 atgacttgac cgccatctgt gatgcctctg aggccttgtt ctgggctctg ctcagtgtag  
 1861 agctgcagcc cttggatgag gcagtcttgc agcaaaagcc caacatcaac gcagtggcca  
 1921 cgctagagaa agtcatcgag atccagagca aacctggag ctgtgtgcag aagttcgccg  
 1981 ctggtctggg ccggtccctg cgagaggccc aagcaggtga ggcgaggag gccgagactg  
 2041 tgagcgccat ggccttgctg tcggtggggg ccgagcaggc ccaggctgcg gcagcccggg  
 2101 aacacagccc caggccggca gaggagccca tggagcagga gcctgccctg tgacgcccgg  
 2161 gcccccatcc ctctcgggctt caccattgtg attttgttta ttttttctat taaaaacaaa  
 2221 aagtcacaca ttc (SEQ ID NO:10)

FIG. 5B-2

FIG. 6A

1 mtstgqdstt trqrrsrqnp qspqqdssvt skrnikkav prsipnlaev kkkgmkklg  
61 gameedlivg lqgmdlnlea ealagtglvl deqlnefhcl wddsfpegpe rlhaikeqli  
121 qeglldrcvs fgarfaekee lmlvhsleyi dlmcttqymn egelrvladt ydsvylhpnns  
181 yscacclasgs vlrlvdavlg aeirngmai rppghhaqhs lmdgycmfhn vavaaryaqq  
241 khrrrrliv dwdvhgqgt qftfdqdpv lyfsihryeq grfwphlkas nwsttgfgqg  
301 qgytinvpwn qvgmrdadyi aafhlvllpv alefqpqlvl vaagfdalqg dpkgemaatp  
361 agfaqlthll mglagklil sleggynira laegvsaslh tllgdpcpm1 espgapcrsa  
421 gasvscalea lepfwelvr stetverdnm eednveesee egpweppvlp iltwvvlqsr  
481 tglvydqnmm nhcnlwdshh pevprilri morleelgia grcltitprp ateaelltch  
541 saeyvghlra tekmtrelh ressnfdsiy icpstfacaq latgaacrly eavisgevin  
601 gaavvrppgh haeqdaacgf cffnsvavaa rhaqtisgha lrilivdwdv hhngtqhmf  
661 eddpsvlyvs lhrydhgtff pmgdegassq igraagtgt vnvawngprm gdadylaawh  
721 rlvlpiaeyf npelvlvsag fdaargdplg gcqvspegya hlthllmgl sgrilileg  
781 gynltsises maactrsilg dppplltlpr pplsgalasi tetiqvhrry wrslrvmkve  
841 dregpssskl vtkkapqpak prlaermtrr ekkvleagmg kvtsasfgee stpgqtnset  
901 avvalcqddp seaatggatl aqtiseaaig gamlgqttse eavggatpdq ttseetvgga  
961 ildqtseda vggatigqtt seeavggatl aqtiseaame gatldqttse eapggtelig  
1021 tplasstdhq tpptspvqgt tpqispstli gslrtlelgs esqgasesqa pgeenllgea  
1081 agggqmadsm lmqgsrgltd qaiyfayvtp1 pwcphlvavc pipaagldvt qpcgdcgtiq  
1141 enwvclscyq vycgryingh mlqhhgnsgh plvlsyidl awcyycqayv hhqalldvkn  
1201 iahqnkfged mphph (SEQ ID:11)

FIG. 6A



APPROVED	C.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 6B-1
FIG. 6B-2
FIG. 6B-3

# FIG. 6B

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1 gggcagtccc ctgaggagcg gggctggttg aaacgctagg ggcgggatct ggcggagtgg  
61 aagaaccgcg gcaggggcca agcctcctca actatgacct caaccggcca ggattccacc  
121 acaaccaggc agcgaagaag taggcagaac cccagtcgc cccctcagga ctccagtgtc  
181 acttcgaagc gaaatatataa aaaggagacc gttccccgct ctatcccca tctagcggag  
241 gtaagaaga aaggcaaat agtgatct gaagaagctc ggccaagcaa tggagaaga cctaatactg  
301 ggactgcaag ggatggatct gaacctcgag gctgaagcac tggctggcag tggcttggtg  
361 ttggatgagc agttaaatga attccattgc ctctgggatg acagcttccc ggaaggccct  
421 gagcggctcc atgccatcaa ggagcaactg atccaggagg gcctcctaga tcgctgcgtg  
481 tccttcagg cccggtttgc tgaaaaggaa gagctgatgt tggttcacag cctagaatat

## FIG. 6B-1

FIG. 6B-2

541 attgacctga tggaaacaac ccagtacatg aatgagggag aactccgtgt cctagcagac  
601 acccacgact cagtttatct gcatccgaac tcatactcct gtgcctgcct ggccctcaggc  
661 tctgtcctca ggctgggtga tgcgggtcctg ggggctgaga tcgggaacgg catggccatc  
721 attagggctc ctggacatca cggccagcac agtcttatgg atggctattg catgttcaac  
781 cacgtggctg tggcagcccg ctatgctcaa cagaaacacc gcaccggag ggtccttacc  
841 gtagattggg atgtgcacca cggtaagga acacagttca ccttcgacca ggacccacgt  
901 gtcctctatt tctccatcca ccgctacgag cagggtagggt tctggcccca cctgaaggcc  
961 tctaactggt ccaccacagg ttcgggcaa ggccaaggat ataccatcaa tgtgccttgg  
1021 aaccagggtg gtagcgga tgctgactac attgctgctt tcctgcacgt cctgctgcca  
1081 gtcggcctcg agctccagcc tcagctggtc ctggtggccg ctggattga tggcctgcaa  
1141 ggggacccca agggcgagat ggcggccact cggcagggt tcggccagct aaccacctg  
1201 ctcatgggtc tggcaggagg caagctgac ctgtctctgg aggtggcta caacctccg  
1261 gccctggctg aaggcgtcag tgcttcgctc cacaccttc tgggagaccc ttgccccatg  
1321 cggagtcac ctggtgccc ctgcccggag gccaggctt cagtttcctg tgctctggaa  
1381 gcccttgagc cctctggga ggttcttgag agatcaactg agaccgtgga gagggacaac  
1441 atggaggagg acaatgtaga ggagagcgag gaggaaggac cctgggagcc cctgtgctc  
1501 ccaatcctga calggccagt gctacagtct cgcacagggc tggtctatga ccaaatatg  
1561 atgaatcact gcaacttgtg ggacagccac caccctgagg taccacagcg catcttgcg  
1621 atcatgtgcc gtctggagg gtctggccctt gccggggcgt gcctcacctt gacacggcg  
1681 cctgccacag aggtgagct gctcacctgt cacagtgtg agtacgtggg tcactctccg  
1741 gccacagaga aaatgaaaac ccgggagctg caccgtgaga gttccaaactt tgactccatc  
1801 tatatctgcc ccagtacctt cgcctgtgca cagcttgcca ctggcgctgc ctgcccctg  
1861 gtggaggctg tgctctcagg agaggtcctg aatggtgctg ctgtggtgcg tccccagga  
1921 caccacgcag agcaggatgc agcttgcggt ttttgctttt tcaactctgt ggctgtggct  
1981 gctcgccatg ccagactat cagtgggcat gccctacgga tcctgattgt ggattgggat  
2041 gtccaccacg gtaatggaa tcagcacatg tttaggagtg acccagtggt gctatatgtg  
2101 tccctgcacc gctatgatca tggcaccttc tccccatgg gggatgaggg tgccagcagc  
2161 cagatcggcc gggccgcggg cacaggcttc accgtcaacg tggcatggaa cgggccccgc  
2221 atgggtgatg ctgactacct agctgcctgg catcgccctg tgcttcccat tgcctacgag  
2281 tttaacccag aactggtgct ggtctcagct ggctttgatg ctgcacgggg ggatccgctg

FIG. 6B-2

FIG. 6B-3

2341 gggggctgcc aggtgtcacc tgagggttat gccacctca ccacctgct gatgggcctt  
2401 gccagtggcc gcattatcct tatcctagag ggtggctata acctgacatc catctcagag  
2461 tccatggctg cctgcaactc cctcctcctt ggagaccac caccctgct gaccctgcc  
2521 cggccccccac tatcaggggc cctggcctca atcactgaga ccaccaagt ccacgcaga  
2581 tactggcgca gcttacgggt catgaaggca gaagacagag aaggaccctc cagtctaaag  
2641 ttggtcacca agaaggcacc ccaaccagcc aaacctaggt tagctagcg gatgaccaca  
2701 cgagaaaaga aggttcttga agcaggcatg gggaaagtca cctcggcatc atttgggga  
2761 gagtccactc caggccagac taactcagag ggagccact ctggccctcac tcaggaccag  
2821 ccctcagagg cagccacagg ggagccact ctggccaga ccatttctga ggagccatt  
2881 gggggagcca tgctgggcca gaccactca gaggaggctg tcggggggagc cactcgggac  
2941 cagaccactc cagaggagac tgtgggagga gccattctgg accagaccac ctcagaggat  
3001 gctgttgagg gagccacgct ggccagact acctcagagg aggctgtagg aggagctaca  
3061 ctggcccaga ccattctgga ggcagccatg gagggagcca cactggacca gactacgtca  
3121 gaggaggctc cagggggcac cgagctgac caaactcctc tagcctcgag cacagaccac  
3181 cagacccccc caactcacc tgtgcaggga actacacccc agatatctcc cagtacactg  
3241 attgggagtc tcaggacctt ggagctaggc agcgaacctc agggggcctc agaattctcag  
3301 gccccaggag aggagaacct accaggagag gcagctggag gtcaggacat ggctgattcg  
3361 atgctgacgc agggatctag gggcctcact gatcaggcca tatcttatgc tgtgacacca  
3421 ctgccctggt gtcccattc ggtggcagta tgcccatac ctgcagcagg cctagacgtg  
3481 acccaacctt gtggggactg tggaacaatc caagagaact ggggtgtgtct ctcttgctat  
3541 caggctctacc gtggtcgtta catcaatggc cacatgctcc aacaccatgg aaattctgga  
3601 caccgcctgg tcctcagcca catcgacctg tcagcctggc gttaactatg tcaggcctat  
3661 gtccaccacc aggtctctct agatgtgaag aacatcgccc accagaacaa gtttggggag  
3721 gatatgcccc acccaccta agccccagaa tacgggtccct cttcaccttc tgaggccccac  
3781 gatagaccag ttccagcctg ttccaggctg taccttggat gaggggtagc ctcccactgc  
3841 atcccatact gaatatcctt tgcaactccc caagagtgtc tatttaagt ttaatacttt  
3901 taagagaact gcgacgatta attgtggatc tccccctgcc catcgcccg catcaggggca  
3961 cactactcc agcccagaag gaaagggggg cagctcagtg gcccgaagag ggagccgata  
4021 tcatgaggat aacattggcg ggaggggagt taactggcag gcatggcaag gttgcatatg  
4081 taataaagta caagctgtt (SEQ ID NO: 12)

FIG. 6B-3

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

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FIG. 7A

1 mdlrvqgrpp vepppeptll alqrpqrlhh hlflaglqqq rsvepmlsm dtpmpelqvg  
 61 pgeqelrqll hkdkskrsav assvvkqla evilkkqaa lertvhpns gipyrtlepi  
 121 etegatrsm1 ssflppvpsi psdppehfl rktvsepnk lrykpkksle rrknpllrke  
 181 sappslrrrp aetlgdssps ssstpasgcs spndsehgn pilgdsdrrt hptlgprgpi  
 241 lgsphrtplfl phglepeagg clpsrlqpil lldpsgshap lltvpglgpl pfhfaqsimt  
 301 terlsqsglh wplsrtsep lppsatappp pgpmqprleq lkthvqvkr sakpsekprl  
 361 rqipseaedle tdgggpgqv ddglehrelg hqgpeargpa plqghpqvii weqqrlagrl  
 421 prgstgdcvi lplaqgghrp lsraqsspa iwsrlqergl rsqceclrgr kasieelqsv  
 481 gliydsvmk hqscgdnr hnehagriqs ngklagliaq rmfemlpcgg vgvdttdtiwn elhssnaarw  
 541 hserhvllyg tnplsrlkld kvasrelkng favvrppghh adhstamgfc ffnsvaiacr qlqqqskask  
 601 aagsvtdlaf vhhngtqqt fyqdpvlyi slhrhddgnf fpgsgavdev gagsgegfnv  
 661 askilivdwd pmgdpeylaa frivvmpiar efspdlvls agfdaaeghp aplggyhvsa  
 721 nvawaggldp mnlaggavvl alegghdlt a icdaseacva allgnrvdpl seegwkqkpp  
 781 kcfgytqq1 mnlaggavvl alegghdlt a icdaseacva allgnrvdpl seegwkqkpp  
 841 pqchplsgr dpgaq (SEQ ID NO:13)

FIG. 7A

FIG. 7B-1

FIG. 7B-1
FIG. 7B-2

FIG. 7B

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1 ataataccta ccttgacgga ccacgacagg ataatgtgag gaaaaacccc catgagagtg  
61 ttttgccatt gtcaagttag cctgagggag gctgaggggg gatcaggctg tatcatgccc  
121 ccgaggacaa actttccagt ttaccctgct cctctctctt gtccctaggc tgccccaggc  
181 cctgacgaga cacaccaggc cctagccgc agcccatgga cctgcgggtg gccacgccc  
241 cccacagtgga gccccacca ggcctgcagc agcagcgtcc ggtggagccc atgaggtctt  
301 accaccacct ctctctagca ggcctgcagc agcagcgtcc ggtggagccc atgaggtctt  
361 ccatggacac gccgacgcc ggcctgcagc agcagcgtcc ggtggagccc atgaggtctt  
421 ttctccacaa ggacaagagc aagcgaagtg ctgtagccag cggccctaga aagaacagtc  
481 tagcggaggt gattctgaaa aaacagcagg cggccctaga aagaacagtc aagaacagtc  
541 gccccggcat tccctacaga acccggagc cctggagac ccctggagc ggaaggagc  
601 tgctcagcag ccttccgcc cctgctccca gcccggccc ggaaggagc ggaaggagc  
661 ctctgcgcaa gacagtctct gaccccaacc tgaagctgag cccaccccac cccaccccac  
721 cggagcggag gaagaatcca ctgctccga aggagagtgc gcccggccc cccaccccac  
781 ggcccgacga gacctcga gacctcga gacctcga gacctcga gacctcga  
841 gcagtcctcc caatgacagc gacctcga gacctcga gacctcga gacctcga  
901 gacccatcc gactctggc gacctcga gacctcga gacctcga gacctcga  
961 tcctgcccc tcctgcccc tcctgcccc tcctgcccc tcctgcccc tcctgcccc  
1021 tcctctctct tcctctctct tcctctctct tcctctctct tcctctctct tcctctctct  
1081 ccttgccctt ccttgccctt ccttgccctt ccttgccctt ccttgccctt ccttgccctt  
1141 tccactggcc actgagccgg cccatgcag cccatgcag cccatgcag cccatgcag  
1201 caccgcccgg cccatgcag cccatgcag cccatgcag cccatgcag cccatgcag  
1261 agaggtcagc caagccgagt gagaagcccc ggctgcggca gataccctcg gctgaagacc  
1321 tgagagacaga tggcggggga ccggggccagg tggcggggga cggcccgagg cagaggagc

FIG. 7B-1

FIG. 7B-2

1381 tgggccatgg gcagcccagag gccagaggcc ccgctcctct ccagcagcac cctcaggtgt  
1441 tgctctggga acagcagcga ctggctgggc ggctccccg gggcagcacc ggggacactg  
1501 tgctgcttcc tctggcccag ggtgggcacc ggctctgtc cgggctcag tcttcccag  
1561 ccgcacctgc ctactgtca gcccagagc ctgccagcca ctgccagtc ctctccagct  
1621 cagagacccc tgccaggacc ctgcccttca ccacagggt gatctatgac tcggtcatgc  
1681 tgaagcacca gtgctcctgc ggtgacaaca gcaggcacc gcagcacgcc ggcgcgcatcc  
1741 agagcatctg gtcccggctg caggagcggg ggcctcggag ccagtgtgag tgtctccgag  
1801 gccggaaggc ctccctggaa gagctgcagt cggctccactc tgagcggcac gtgctcctct  
1861 acggcaccaa cccgctcagc cgcctcaaac tggacaacgg gaagctggca gggctcctgg  
1921 cacagcggat gtttgagatg ctgcccctgtg gtggggttgg ggtggacact gacaccatct  
1981 ggaatgagct tcattccLcc aatgcagccc gctgggcccg tggcagtgtc actgacctcg  
2041 ccttcaaagt ggcttctcgt gagctaaaga atggtttcgc tgtggtgcgg ccccaggac  
2101 accatgcaga tcattcaaca gccatgggct tctgcttctt caactcagtg gccatcgctt  
2161 gccggcagct gcaacagcag agcaaggcca gcaaggccag gcaagatcctc attgtagact  
2221 gggacgtgca ccatggcaac ggcaaccagc aaaccttcta ccaagacccc agtgtgctct  
2281 acatctccct gcatacgccat gacgacggca acttcttccc ggggagtggg gctgtggatg  
2341 aggtaggggc tggcagcggg gagggcttca atgtcaatgt ggcctgggct ggaggtcttg  
2401 acccccccac gggggatcct gaggacctgg ctgctttcag gatagtcgtg acgcccacg  
2461 ccgagagtt ctctccagac ctactcctgg tagtccctgg tgtctgcccg atttgatgct gctgagggctc  
2521 acccgcccc acLgggtggc taccatgttt ctgccaaatg ttttggatag atgacgcagc  
2581 aactgatgaa cctggcagga ggcgcagtgg tgctggcctt ggagggtggc catgacctca  
2641 cagccatctg tgacgcctct gaggcctgtg tggctgctct tctgggtaac aggggtggatc  
2701 ccctttcaga agaaggctgg aaacagaaac ccaacctca atgccactcg ctctctggag  
2761 gccgtgatcc ggtgacacag taaatactgg ggctgcatgc agcgcctggc ctctctgtcca  
2821 gactcctggg tgcctagagt gccaggggct gacaaagaag aagtggaggc agtgaccgca  
2881 ctggcgctcc tctctgtggg catcctggct gaagataggc cctcggagca gctggtggag  
2941 gaggaagaac ctatgaatct ctaaggctct ggaacctct gcccgcccac catgcccttg  
3001 ggacctgggt ctcttctaac ccctggcaat agcccccat cctgggtctt tagagatcct  
3061 gtgggcaagt agttggaacc agagaacagc ctgcctgctt tgacagttat ccaggggagc  
3121 gtgagaaaat c (SEQ ID NO:14)

FIG. 7B-2

FIG. 8A

1 meepeepads gqslvpvyiy speyvsmcde lakipkrasm vhsleayal hkqmrivkpk  
61 vasmeematf htdaylqhlq kvsqegdddh pdsieyglgy dcpategifd yaaaiggati  
121 taaqclidgm ckvainwsgg whhakkdeas gfcylndavl gilrlrrkfe rilyvdlldlh  
181 hgdgvedafs ftskvmtvsl hkfspgffpg tgdvsdvglg kgryysvnpv iqdgiqdeky  
241 yqicesvlke vyqafnpkav vlqlgadtia gdpmcfsnmt pvgigklky ilqwqlatli  
301 lggggynlan tarcwtyltg vilgktsse ipdbefftay gpdyvleith scrpdrneph  
361 riqqilnyik gnlkhvv (SEQ ID NO:15)

FIG. 8A

Sequence: E F G H I

```

1  gaaattcggc acgagctcgt gccgaattcg gcacgagaac ggttttaagc ggaagatgga
61  ggagccggag gaaccggcgg acagtgggca gtcgctggtc ccggtttata tctatagtcc
121 cgagtatgc agtatgtgtg actccctggc caagatcccc aacggggcca gtatggtgca
181 ttctttgat gaagcatatg cactgcataa cttccacac tgatgcttat ctgcagcatc taaagtggc
241 ctccatggag ggcgatgatg gagatggcca atcatccgga ctccatagaa tatgggctag gttatgactg
301 cagccaagag gccagccact gaaggatat ttgactatgc agcagctata ggaggggcta cgatcacagc
361 cccagccact tgcccacatgc ctgattgacg gaatgtgcaa agtagcaatc aactggctctg gagggctggca
421 tcatgcaaaag aaagatgaag catctgggtt tcgttatctc aatgatgctg tcctgggaat
481 attacgattg cgacggaaat ttgagcgtat tccctacgtg gattcggatc tgcaccatgg
541 agatgggtga gaagacgcat tcagtttcac ctccaaagtc atgaccgtgt ccctgcacaa
601 attctcccca ggatttttcc caggaacagg tgacgtgtcc gacgttggcc tagggaaggg
661 acggtactac agtgtaaatg tgcccatcca ggatggcata caagatgaaa aatatacca
721 gatctgcgaa agtgactaa aggaagtata ccaagcctt aatccaaag cagtggctctt
781 acagctggga gccgacacaa tagctgggga tcccatgtgc tcctttaaca tgactccagt
841 gggaattggc aagtgtctca agtacatccc tcaatggcag ttggcaacac tcatttcggg
901 aggaggaggc tataaccttg ccaacacggc tcgatgctgg acatactga cgggggtcat
961 cctagggaaa acactatcct ctgagatccc agatcatgag tttttcacag catatggtcc
1021 tgattatgtg ctggaatatca cgccaagctg ccggccagac cgcaatgagc ccacccgaat
1081 ccaacaatc ctcaactaca tcaaagggaa tctgaagcat gtggtctagt tgacagaaaag
1141 agatcagggt tccagagctg aggagtgggtg cctataatga agacagcgtg tttatgcaag
1201 cagtttgrgg aatttgtgac tgcaggggaaa atttgaaaga aattacttcc tgaaaaatttc
1261 caaggggcat caagtggcag ctggcttcct ggggtgaaga ggcaggcacc ccagagtcctt
1321 caactggacc taggggaaga aggagatarc ccacatttaa agttcttatt taaaaaaca
1381 cacacacaca aatgaaattt ttaatctttg aaaattatctt ttaagcgaat tggggagggg
1441 agtattttaa tcattcttaa tgaacacagat cagaagctgg atgagagcag tcaccagttt
1501 gtagggcagg aggcagctga caggcagggn tngggcctcn ggaccancca ngtggagccc
1561 tgggagagan ggtactgac ngcagactgg gagg (SEQ ID NO:16)
1621

```

FIG. 8B





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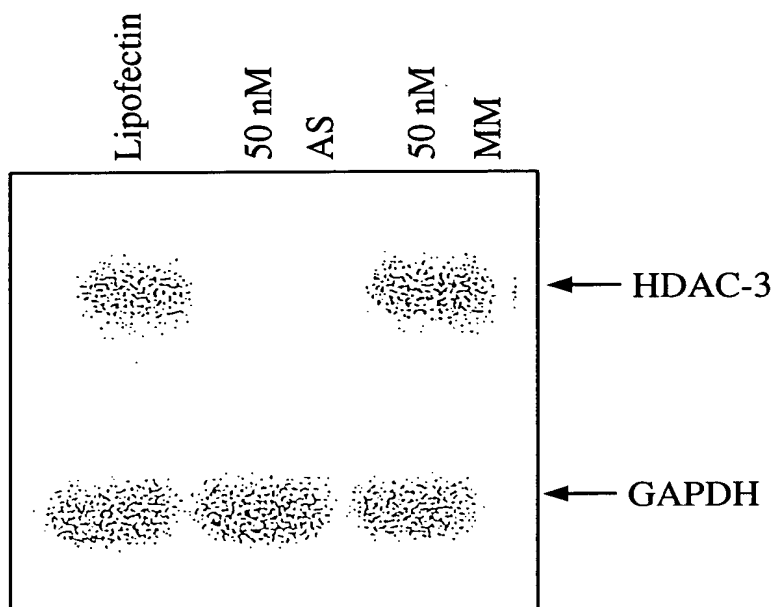


FIG. 9D

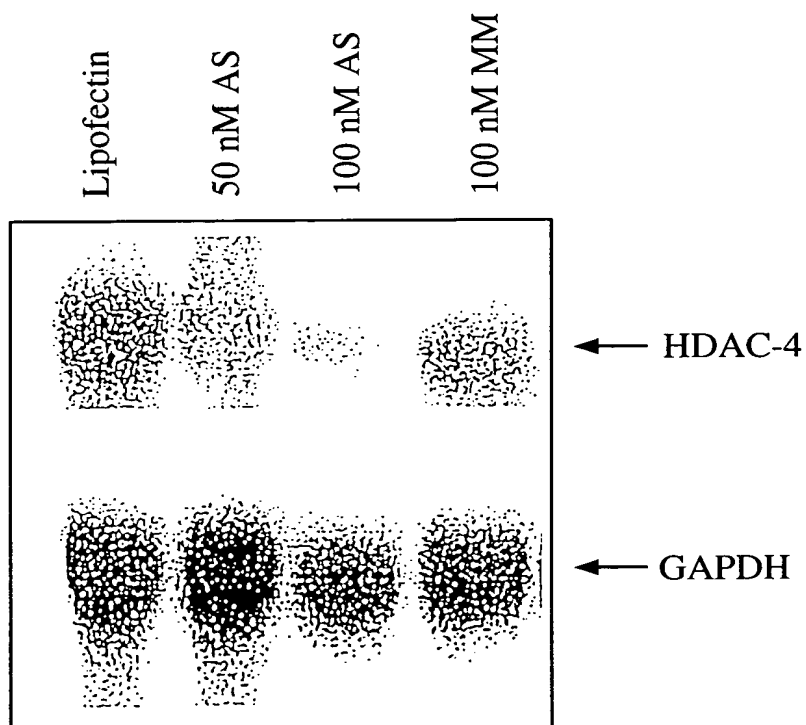


FIG. 9E

FIG. 9D = 26/38

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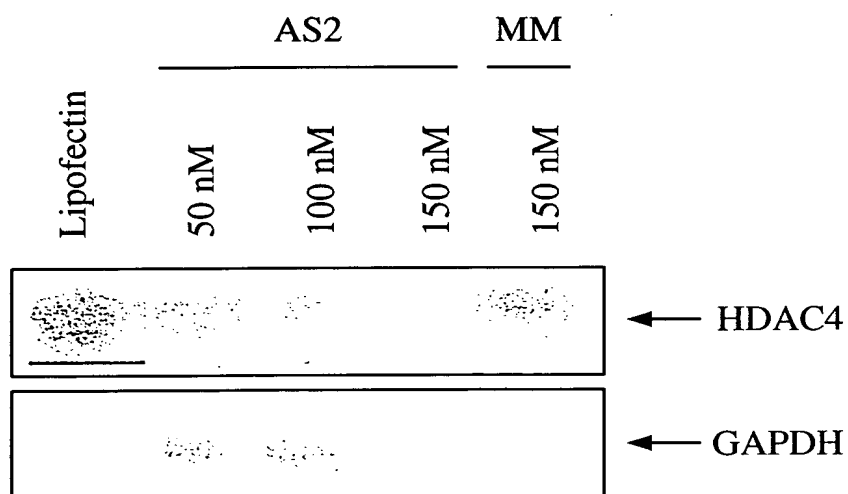


FIG. 9F

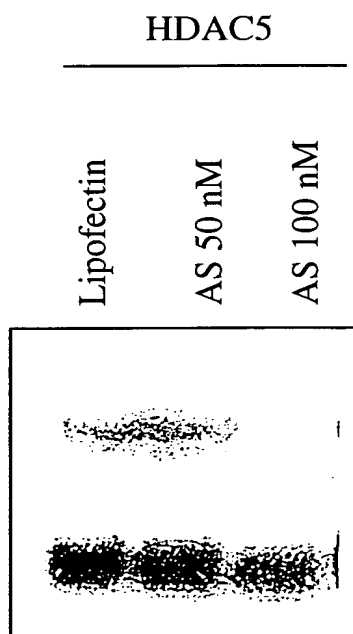


FIG. 9G

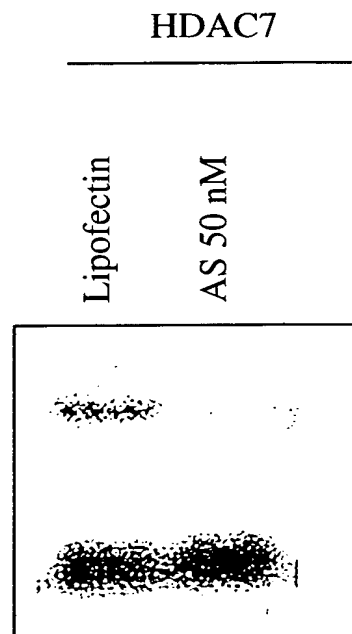


FIG. 9H

FIG. 9F-9H

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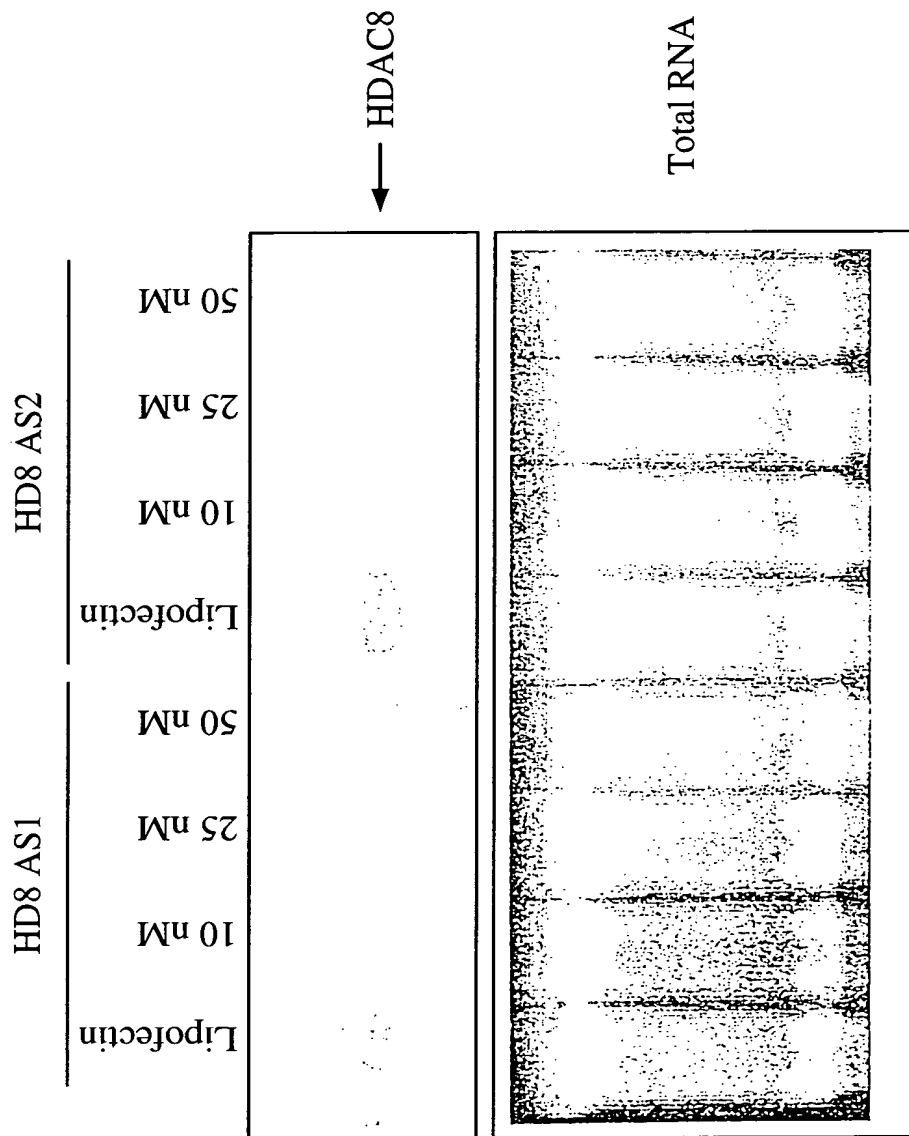
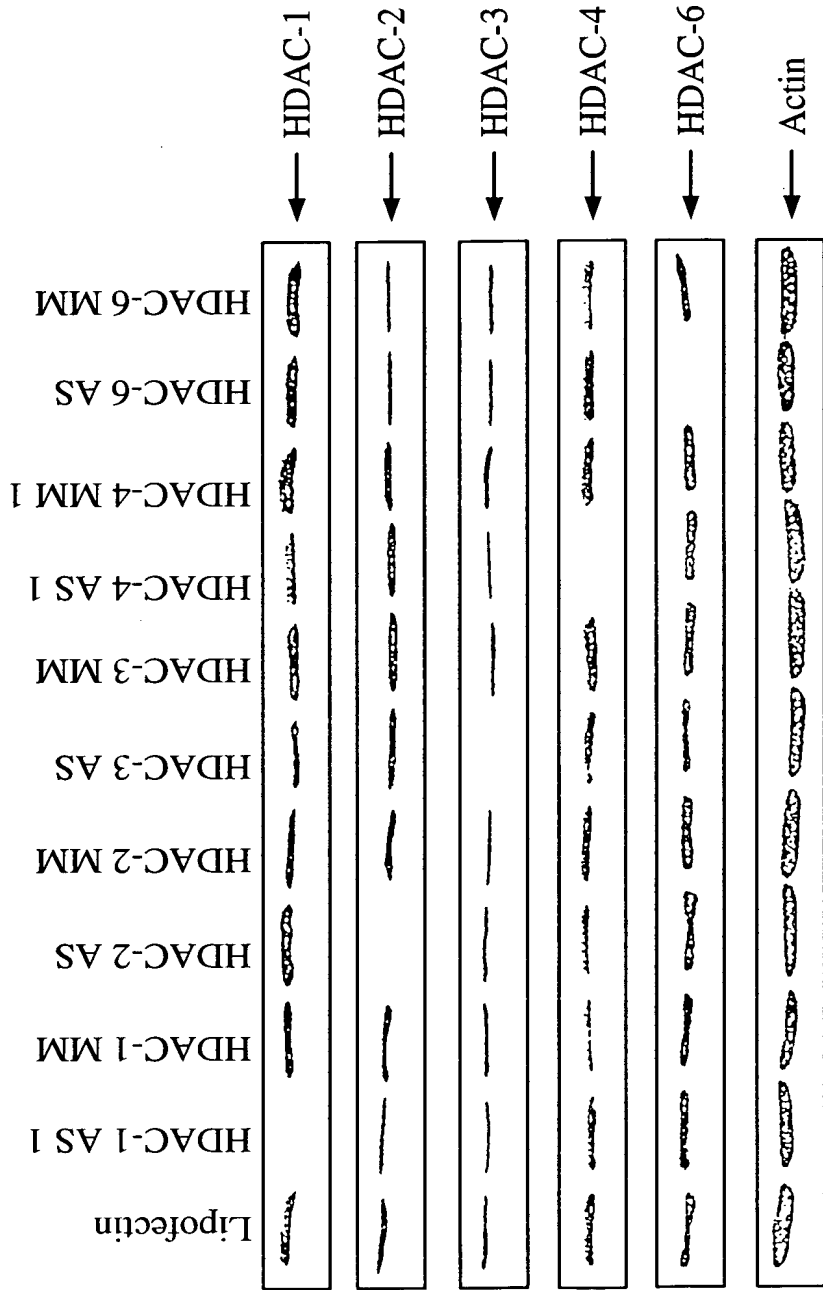


FIG. 9I

FIG. 10A



AS = Antisense  
MM = Mismatch  
NS = Non-specific control  
3 day treatment  
Oligonucleotide conc -- 50nM

FIG. 10A

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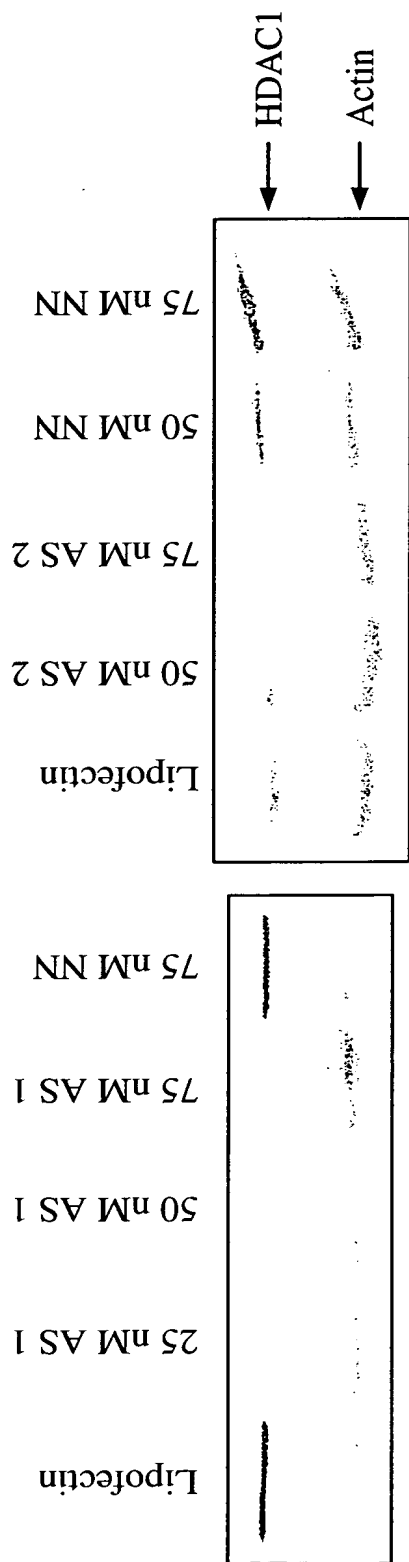


FIG. 10B

FIG. 10B

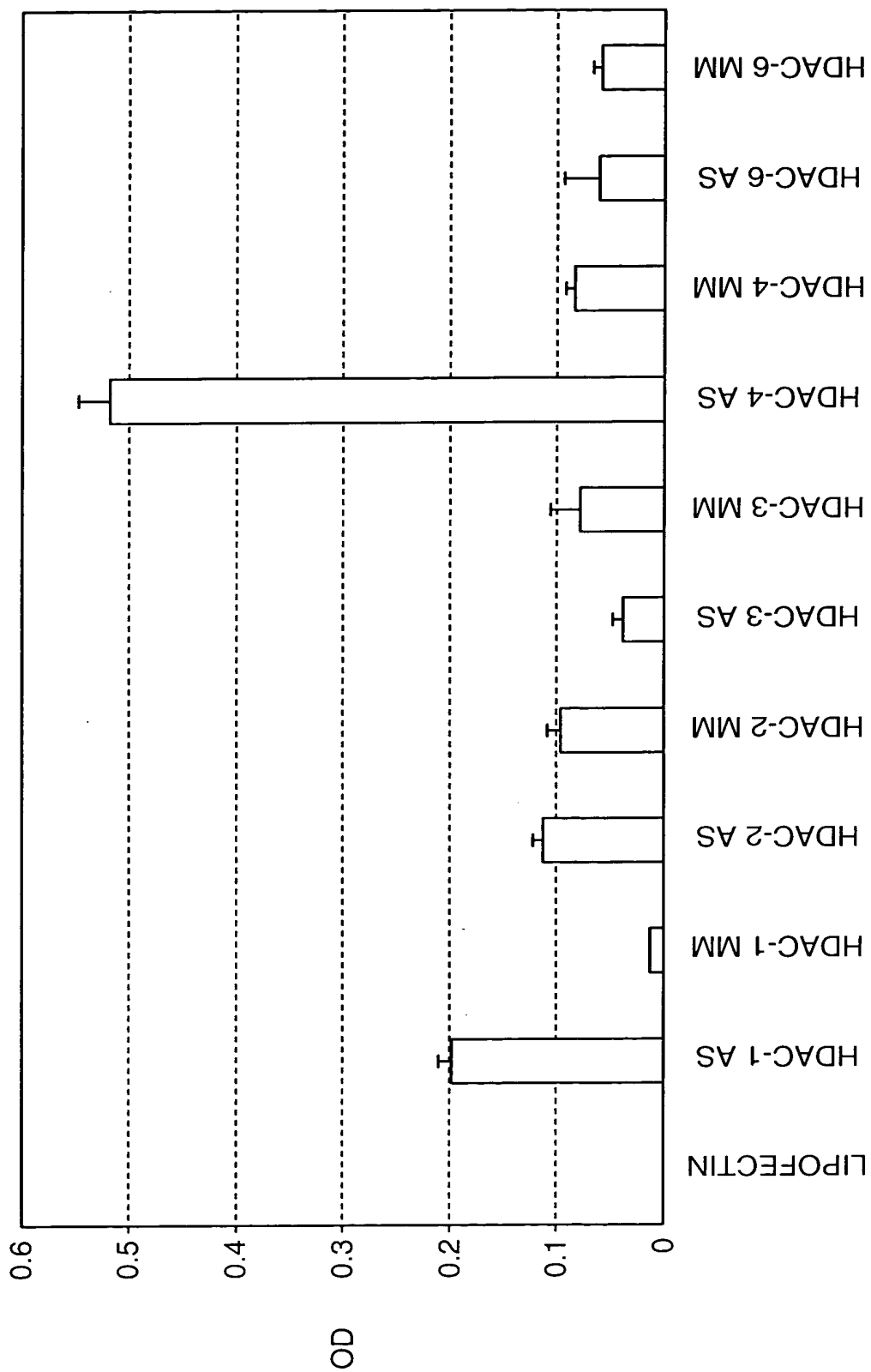


FIG. 11

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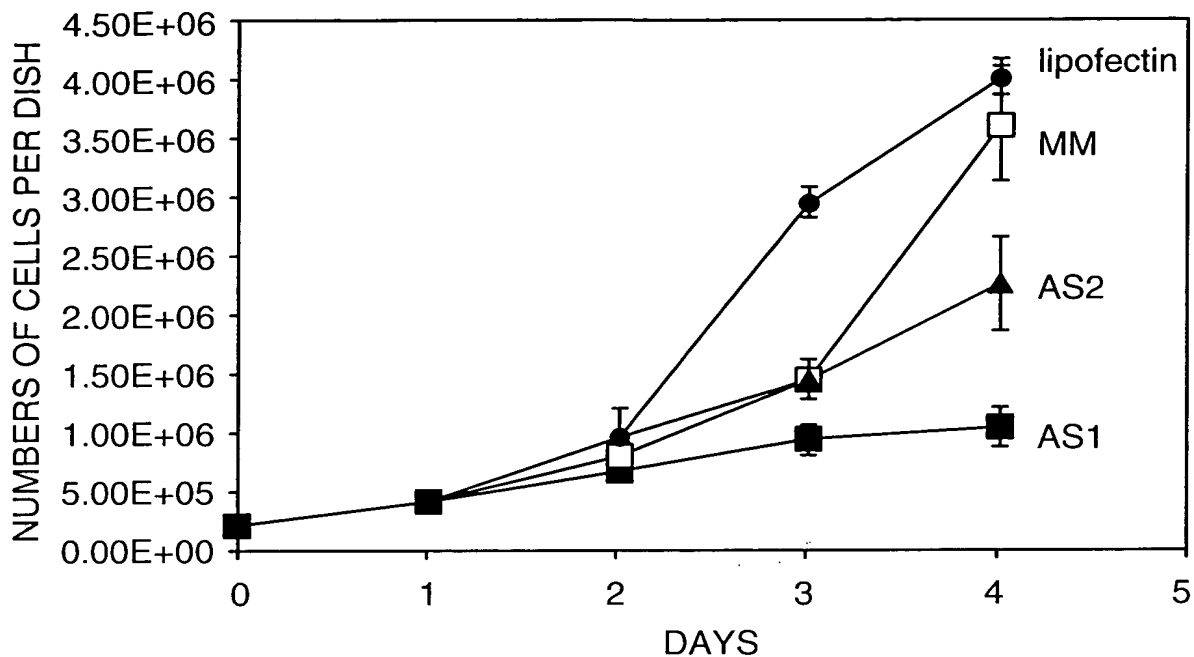


FIG. 12A

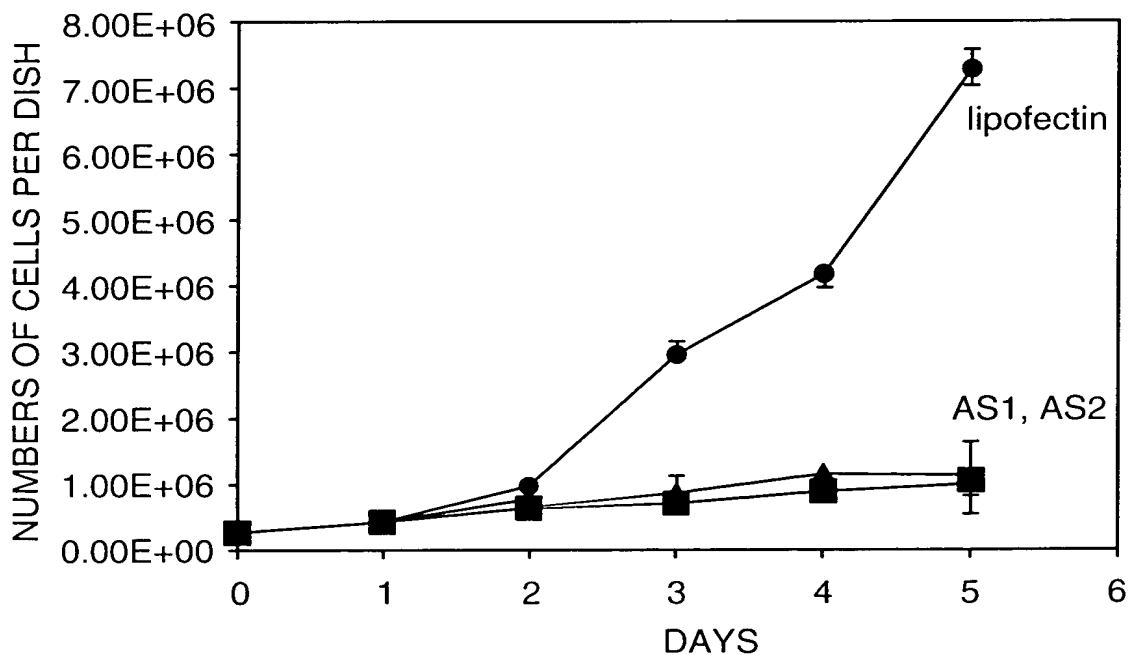


FIG. 12B



APPROVED	O. G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

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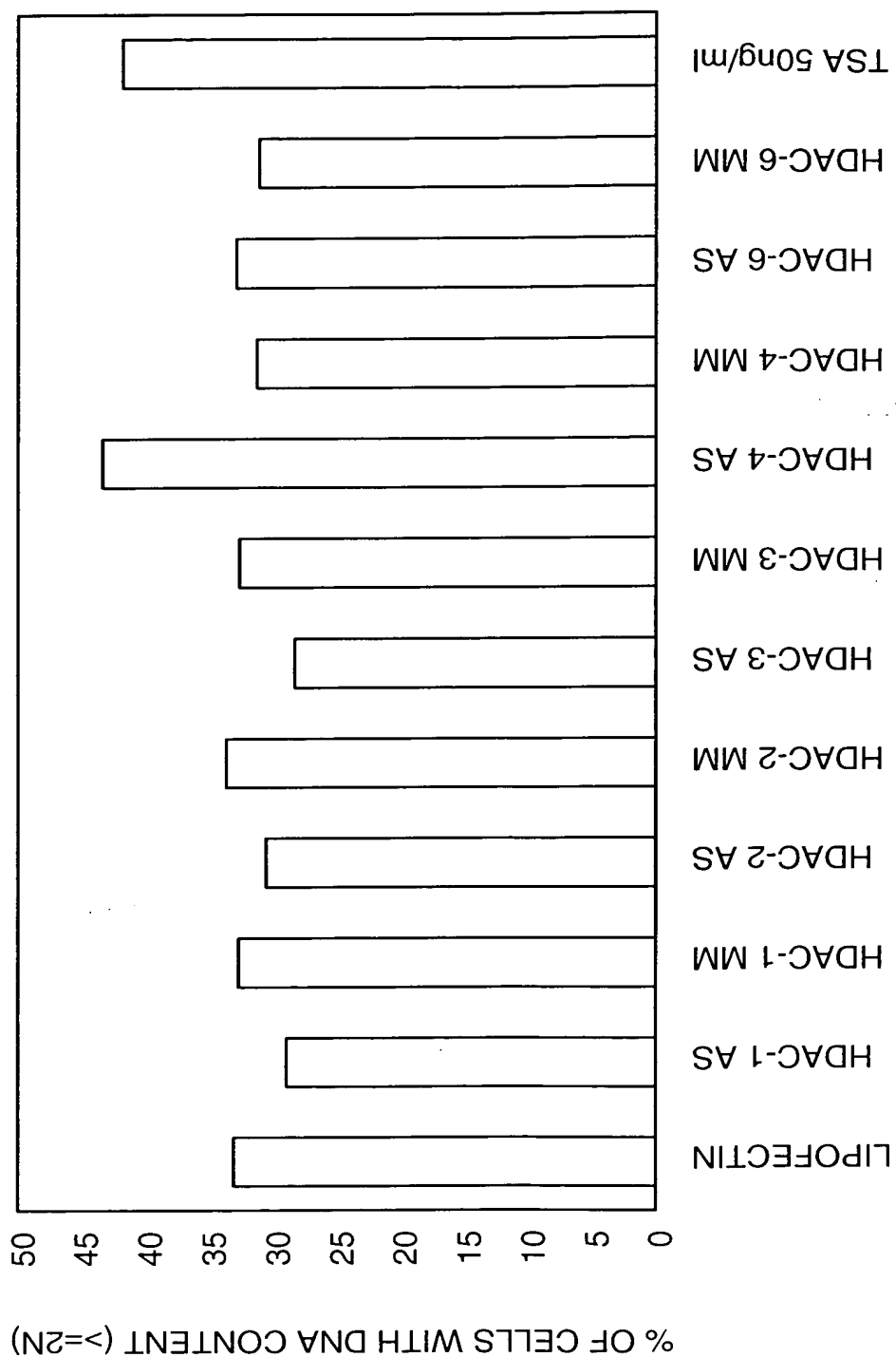


FIG. 13

FIG. 13

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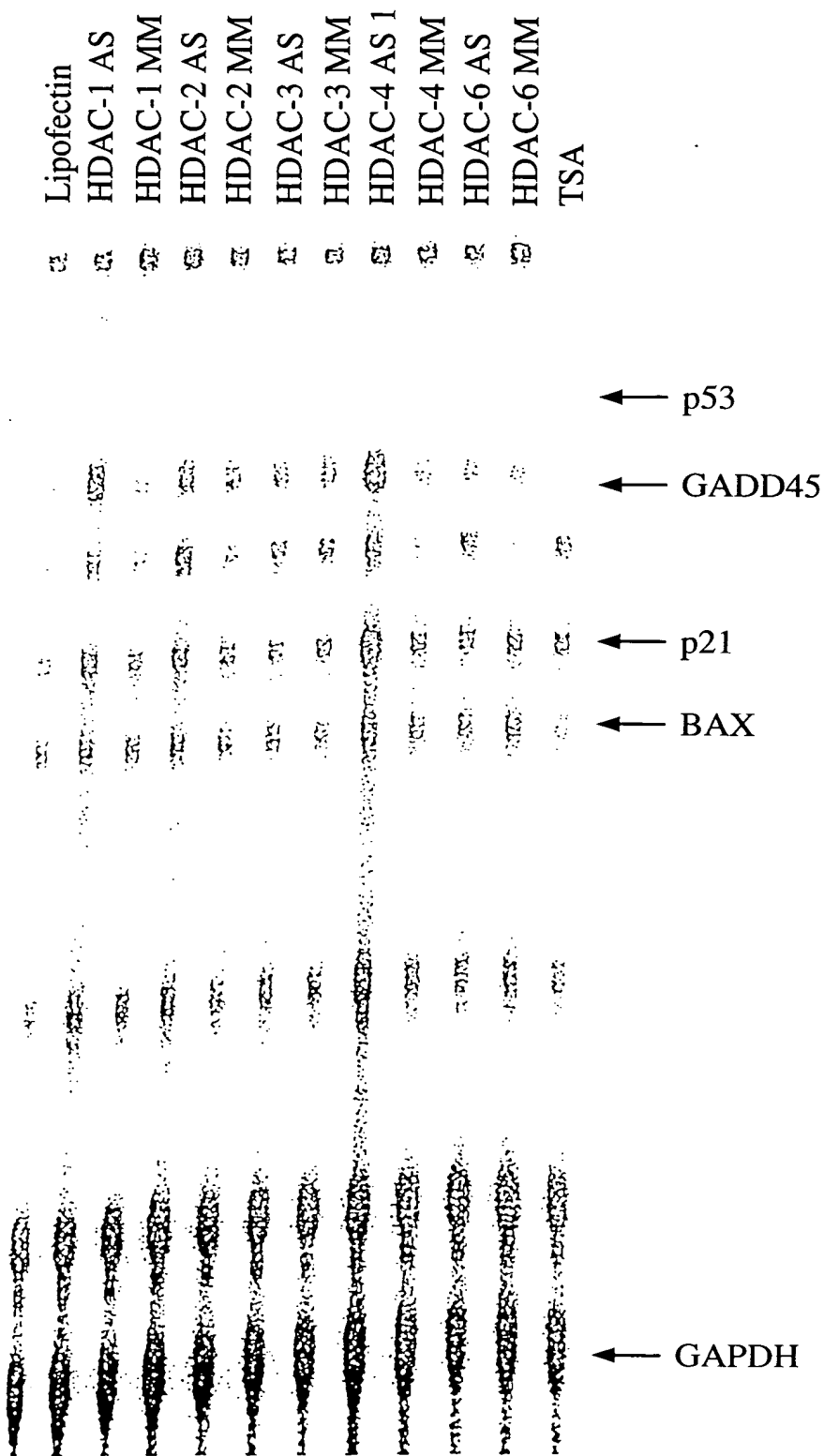


FIG. 14

402020-ET62F650

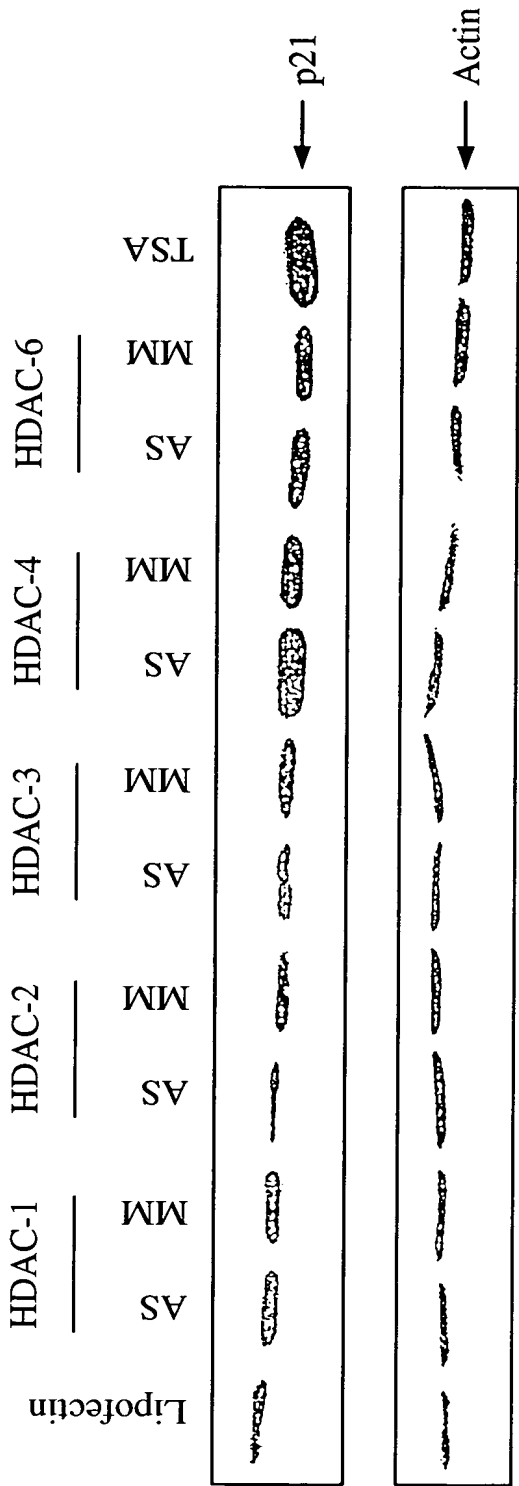


FIG. 15

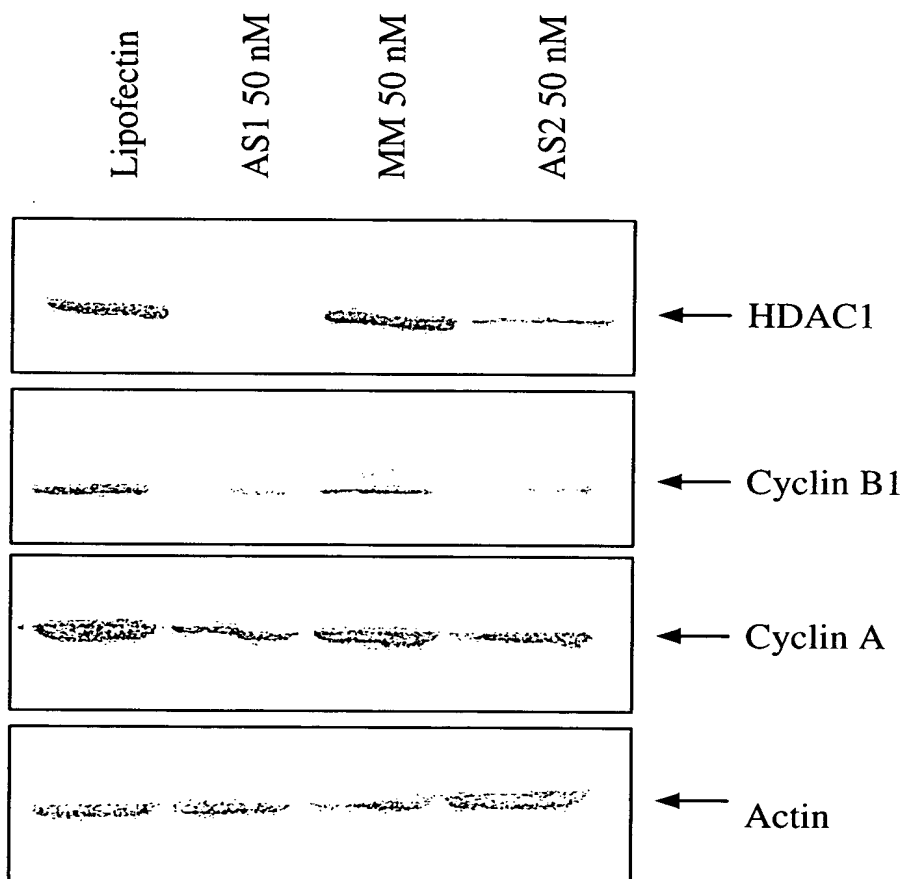
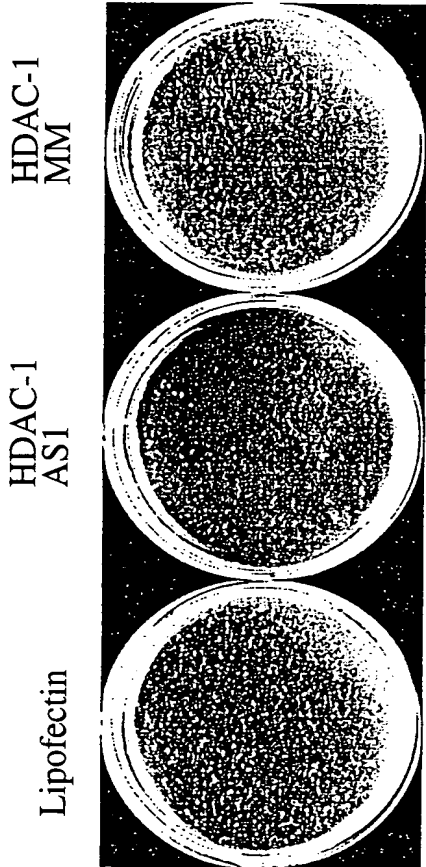


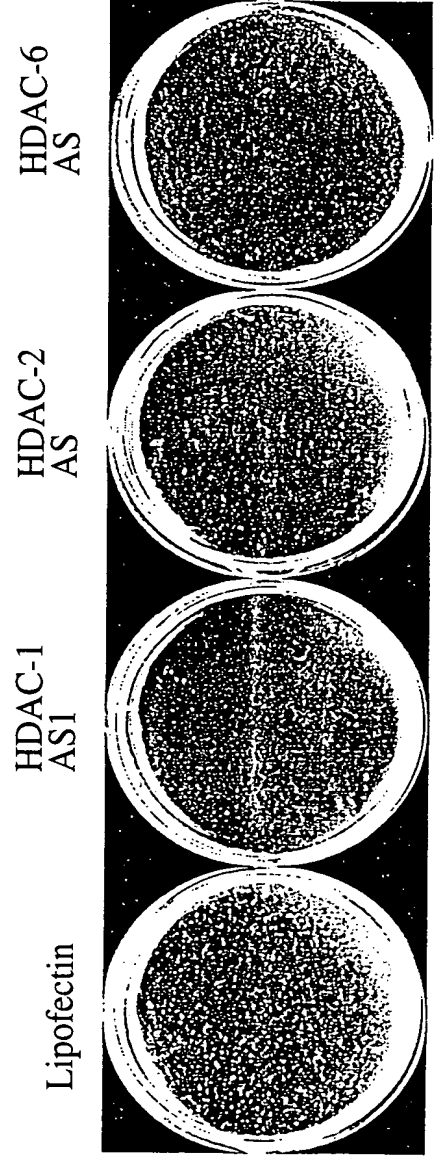
FIG. 16

FIG. 17A



Colony Numbers -1200 -120 -1160

FIG. 17A



Colony Numbers -1200 -120 -890 -730

FIG. 17B

Compound 3

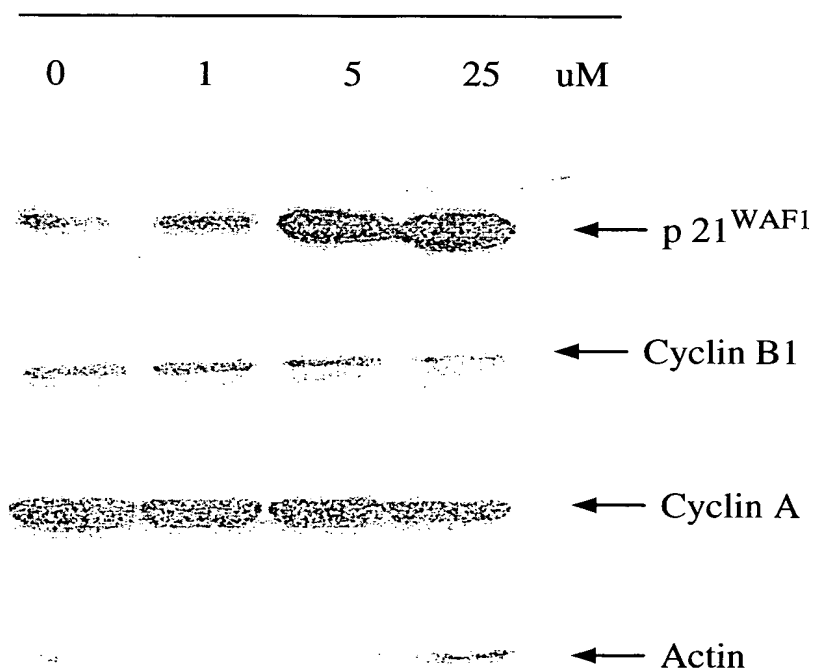


FIG. 18